Baltimore & Ohio Railroad: Howard Street Tunnel
1300 Mount Royal Avenue
Baltimore
Baltimore City
Maryland

HAER No. MD-11

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

Historic American Engineering Record
National Park Service
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HISTORIC AMERICAN ENGINEERING RECORD

Baltimore and Ohio Railroad: Howard Street Tunnel

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Location:	Beneath Howard Street from Mt. Royal Station to Camden Station Baltimore, Baltimore City, Maryland
Dates of Construction:	1890-95
Builder/Designer:	Ryan and McDonald, contractor Samuel Rea, Chief Engineer
Original Use:	Railroad Tunnel
Present Use:	Still in use
Original Owner:	Baltimore and Ohio Railroad
Present Owner:	Baltimore and Ohio Railroad
Significance:	The Baltimore Belt Railroad, chartered in 1888, built the Howard Street Tunnel. The seven-mile-long railroad connected the main branch of the Baltimore and Ohio Railroad that extends westward with its Philadelphia branch. Previously, trains had taken a circuitous route around Baltimore, which included ferrying all trains across the Patapsco River. Two decades earlier, the Pennsylvania Railroad had constructed tracks directly into Baltimore. In order for the B & O to remain competitive with the Pennsylvania company, the Baltimore Belt Railroad was built. The growth of the city eliminated the possibility of an above-ground track, necessitating the construction of a tunnel. Construction of the tunnel began in 1890. On May 1, 1895, the first passenger train passed through it. Power for locomotives moving trains through the tunnel was provided by electricity--a novel idea in the 1890s, as electricity was then only beginning to be used by railroads. The General Electric Company dsigned electric locomotives especially for the Howard Street Tunnel, and an electric power station was built in the Camden Station yards to power them. The electricity that provided the illumination for the tunnel was another innovative achievement.

Significance, cont'd. To provide capital for carrying out the work, the Maryland Construction Company was organized by officers of interested railroads. Samuel Rea was chief engineer of the tunnel. On September 4, 1890, a contract for constructing the whole line was given to Ryan and McDonald.

Difficulties in work due to its location, as well as to the sandy character of the ground, arose. While planning the bore for the tunnel, it was considered important to avoid obstructing traffic on Howard Street. The tunnel section is 29 feet wide and 21 feet high, its total length is 7341 feet, and is 70 feet below surface at its deepest point. It is built of brick with iron-ring centerings shaped in an arch. The flooring is supported by a flat reverse arch which provides additional strength to the walls. Five shafts were sunk from the surface in locations which avoided the obstruction of traffic on Howard Street. The draining of the shafts, one of the hardest problems during construction, was done by driving pipes from the surface and pumping water to the street above.

The grade in the tunnel is in one direction, rising at a steady 8% ascent, which allows southbound trains to coast from Mt. Royal Station to Camden Station. The tunnel is still in use today.

References:

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Transmitted by: Jean Yearby, HAER, 1984, from data compiled by Nancy Miller, Historian, Maryland Historical Trust, 1972